

REMARKS/ARGUMENTS

I. AMENDMENTS TO THE SPECIFICATION AND CLAIMS

Paragraphs 0039, 0047, 0048, 0055, 0058, 0065, 0069, 0071 and 0074 have been amended to overcome the objections to the specifications in the Office Action of February 14, 2006. Paragraph 0039 has been amended to accurately caption Figure 8. Support for the amendments to paragraph 0039 can be found throughout the specification. Specifically, support can be found in at least paragraph 0074. Paragraphs 0047 and 0048 have been amended to include a description of element 10 of figure 2 (2A and 2B). Support for the amendments to paragraphs 0047 and 0048 can be found throughout the specification. Specifically, support can be found in at least figure 2 as filed, which labels element 10 as “focusing/collimating optics.” Paragraphs 0055, 0058, 0065, 0069, 0071 and 0074 have been amended to correct references to trademarked names. The “Abstract of the Disclosure” has also been amended to simply remove “legal phraseology” allegedly contained in the abstract, and to correct a typographical error. Accordingly, no new matter has been introduced by way of these amendments to the specification and abstract.

Claims 4, 10, 11, 14, 15, 18, 34 and 36-39 have been amended. Claims 4, 10, 11, 15 and 18 have been amended to correct antecedent basis of the element “inner surface.” Claim 18 has been amended to recite multiple dependency in proper form. Claims 34, and 36-39 have been amended to clarify that the optional reference group recited in claim 1 is required for these claims. Accordingly, no new matter has been introduced by way of these amendments. After entry of the amendments, claims 1-42 are pending.

II. THE OFFICE ACTION OF FEBRUARY 14, 2006

A. INFORMATION DISCLOSURE STATEMENT

In response to the inquiry regarding the listing of references in the specification, Applicants note that an Information Disclosure Statement listing the references cited in the specification was filed June 24, 2004.

B. OBJECTIONS TO THE DRAWINGS

In response to the objections to the Drawings in the Office Action of February 14, 2006, Applicants have amended the specification to match the figures as filed. Withdrawal of these objections is earnestly solicited.

C. OBJECTIONS TO THE SPECIFICATION

In response to the objections to the Abstract of the Disclosure, Applicants have amended the Abstract to remove the language that allegedly contains legal phraseology to clarify an allegedly unclear sentence. Withdrawal of these objections is earnestly solicited.

D. OBJECTIONS TO CLAIM 18

In response to the objections to claim 18, Applicants have amended claim 18 to place the claim in proper form for multiple dependent claims. Withdrawal of this objection is earnestly solicited.

E. THE REJECTIONS UNDER 35 U.S.C. §112, SECOND PARAGRAPH, ARE MOOT

The Office Action of February 14, 2006 rejected claims 4, 10, 11, 14, 15, 34 and 36-36 as allegedly "being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention." *Office Action of February 14, 2006*, page 4. Without agreeing with the assertions that the rejected claims were indefinite, Applicants have amended claims 4, 10, 11, 14, 15, 34 and 36 to correct antecedent basis and to clarify the required elements for each claim. The amendments to these claims renders moot the rejections

under 35 U.S.C. §112, second paragraph. Withdrawal of the rejection of claims 4, 10, 11, 14, 15, 34 and 36-39 under 35 U.S.C. §112, second paragraph, is earnestly solicited.

F. THE REJECTION UNDER 35 U.S.C. §102(b) IS TRAVERSED

The Office Action of February 14, 2006 rejected claims 1-3, 5-9, 12-13, 16-17, 19-27, 29-30, 33 and 35 under 35 U.S.C. §102(b) as allegedly “being anticipated by Alcala ‘405 (US Patent No. 5,126,405).” *Office Action of February 14, 2006*, page 5. Applicants respectfully disagree with the assertions that Alcala anticipates the claimed invention.

In making the rejection, the Office Action asserts that Alcala teaches an “optical conduit comprising at least one binding [sic] protein (Figure 2, element 48) adapted to bind with at least one target analyte....” *Office Action of February 14, 2006*, page 6. Applicants respectfully disagree with the Office Action’s summary of Alcala. Specifically, nowhere does Alcala teach, mention or even suggest “at least one binding protein adapted to bind at least one target analyte” as required by the pending claims. Rather, Alcala discusses the composition of element 48 of the disclosed device as “crystals of a phosphorescent material.” *U.S. Patent No. 5,127,405*, Col. 6, l. 9. Alcala elaborates on the identity of the phosphorescent material and states that

[t]he phosphorescent material has a substantial sensitivity to oxygen, and desirably a substantial quenching of phosphorescence in the presence of oxygen. Among the materials which may be employed are the metallo derivatives of compounds selected from the group consisting of porphyrin; chlorin; bacteriochlorin; porphyrinogen; and the alkyl or aryl substituted derivatives of these compounds. All of the compounds have characteristic multi-ring structures with plural nitrogen atoms juxtaposed with one another adjacent the center of the structure. In the metallo derivatives, a metal atom or ion is disposed adjacent the center of the structure and is commonly considered as being bound to the nitrogen atoms of the multi-ring structure. Among the metallo derivatives which may be employed are those bearing metals selected from the group consisting of platinum and palladium. Combinations of these metals may also be used. A particularly preferred oxygen-sensitive luminescent material is platinum tetraphenyl porphyrin, commonly referred to as "platinum porphyrin".

U.S. Patent No. 5, 127,405, Col. 6, ll. 20-40. Thus, Alcala does not disclose or even suggest a protein as a constituent to element 48, let alone a protein that binds an analyte. Because Alcala does not teach each and every limitation of the presently claimed invention, Alcala fails to anticipate the claimed invention. Withdrawal of the rejection of claims 1-3, 5-9, 12-13, 16-17, 19-27, 29-30, 33 and 35 under 35 U.S.C. §102(b) is earnestly solicited.

G. THE REJECTION UNDER 35 U.S.C. §103 IS TRAVERSED

The Office Action of February 14, 2006 rejected claims 28, 31, 32 and 40-42 under 35 U.S.C. §103, as allegedly “being unpatentable over Alcala ‘405 in view of Lakowitz [*sic*, Lakowicz] ‘534 (US Patent No. 6,197,534).” *Office Action of February 14, 2006*, page 8.

Applicants assert that the references, combined in the manner outlined in the Office Action of February 14, 2006, fail to render obvious the presently claimed invention. To establish a *prima facie* case of obviousness, the Examiner must meet three criteria. First, the Examiner must show that the references upon which she or he relied teach *every* limitation of the currently claimed invention, *In re Royka*, 490 F.2d 981, 985 (C.C.P.A. 1974). Second, the Examiner must show that there is some suggestion or motivation in the references themselves, or within the knowledge of one of ordinary skill in the art, to combine the references to arrive at the claimed invention. Lastly, the Examiner must show that there is a reasonable expectation of success in combining the references, and that this expectation of success is found in the references as well. *In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991).

In making the rejection the Office Action asserts that “Alcala ‘405 teaches all the elements of the current invention, ... except for an optical system adapted to measure the intensity of polarization of the luminescent signal and the energy transfer of the reported group.” *Office Action of February 14, 2006*, page 8. The Office Action then cites Lakowicz because Lakowicz allegedly teaches “glucose binding could be detected by changes in emission intensity, polarization, lifetime or energy transfer efficiencies” *Office Action of February 14, 2006*, page 8. Even assuming *arguendo* that the Office Action is correct in its characterization of

Lakowicz, the fact that “glucose binding could be detected by changes in emission intensity, polarization, lifetime or energy transfer efficiencies” does not rectify the deficiencies of the teachings of Alcalá. As stated above, Alcalá does not teach or suggest a binding protein adapted to bind at least one target analyte. And “glucose binding ...[being] detected by changes in emission, intensity, polarization, lifetime or energy transfer efficiencies,” as allegedly taught by Lakowicz, does not rectify the deficiencies of Alcalá with respect to the binding protein. Thus, the combination of Alcalá and Lakowicz, as outlined in the Office Action of February 14, 2006, does not teach each and every limitation of the claimed invention. Therefore, the Office Action does not establish a *prima facie* case of obviousness of the presently claimed invention, in view of the cited art. Withdrawal of the rejection of claims 28, 31, 32 and 40-42 is earnestly solicited.

CONCLUSION

Applicants have amended the specification for a variety of reasons. The amendments to the specification do not introduce new matter. In addition, Applicants have amended claims 4, 10, 11, 14, 15, 18, 34 and 36-39 for a variety of reasons. The amendments to the claims do not introduce new matter.

The amendments to the claims renders moot the rejections under 35 U.S.C. §112, second paragraph. Applicants have also traversed the rejections under 35 U.S.C. §§102(b) and 103 by distinguishing the presently claimed invention over the cited art.

Should the Examiner believe that further discussion of any remaining issues would advance the prosecution, he or she is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Date

May 15, 2006

By

Todd B. Buck

Castellano Malm Ferrario & Buck PLLC

Customer Number: **46851**

Telephone: (202) 478-5300

Facsimile: (202) 318-1288

Todd B. Buck

Registration No. 48,574